

DOCKET NO: 264542US6PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
NAOTAKA TSUNODA : EXAMINER: DIAO, M.
SERIAL NO: 10/524,108 :
FILED: FEBRUARY 10, 2005 : GROUP ART UNIT: 2838
FOR: CHARGING DEVICE AND :
CHARGING METHOD :

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicants respectfully request the Board of Patent Appeals and Interferences review and withdraw the final rejection of the pending claims in the above-identified application.

I. REAL PARTY IN INTEREST

The real party in interest is Sony Corporation, the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claim 1 pending, rejected.

Claim 2 pending, rejected.

Claim 3 canceled.

Claims 4-12 pending, rejected.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the final rejection. Therefore, the claims rejected in the Final Action of November 21, 2007, are the same as the claims presented for review on appeal.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1

Claim 1 is directed to a charging apparatus, nonlimiting support for which is found in Figures 2 and 3. A charging apparatus such as that shown in Figure 16 engages with an apparatus (e.g., headphone unit) that has a secondary battery. When the apparatus (element 15 in Figure 2 for example) is engaged with the charging apparatus 16, a pair of electrodes 31 engage with the pair of contact members 38 on the charging device 16 so as to charge the secondary battery in the apparatus 15.

As shown in the nonlimiting example of Figure 3, the electrodes of the apparatus are press-attached to the contact members 38 with a force greater than the weight of the apparatus due to an angular moment centered about the engaging section of the apparatus due to the weight of the apparatus. The leverage principle, which accounts for the force greater than the weight of the apparatus due to an angular moment, is described in the specification beginning at page 12, line 21, for example. As this portion of the specification is believed to be clear, and is further explained in the "Argument" portion of this Brief, it will not be reiterated herein.

Claim 1 also requires that a receptacle surface of the battery charger (see surface 36 of Figure 2) forms a substantially circular arc shape such that an engaged section is engaged by the engaging section when the apparatus is slid along the receptacle surface, and the electrode

stops at a position where the contact is made with the contact member. Once again, these features are easily seen in the nonlimiting examples of Figures 2 and 3.

Dependent Claim 2

Dependent Claim 2 further defines the charging device of Claim 1 such that the electrode makes contact with the contact member at a position between a perpendicular line passing through a center of gravity of the apparatus of the engaging section. A nonlimiting example is found at Figure 3, which graphically shows the vectors of the physical structure defined in Claim 2. In Figure 3, for example, the center of gravity is identified as G. A fulcrum is taken to be an element F. Element A is taken to be a perpendicular line from G and a horizontal line passing through F.

As can be seen, the weight W of the headphones 15 not only creates a force to press contact the electrodes to the contact members, but also gives rise to the rotational force (according to the “leverage principle”) caused by the offset of the center of gravity, and fulcrum F. The net result is that a press-contact of the electrodes 31 with the contact members 38 may be made more reliable and with a stronger force due to this leverage principle than with the weight of the apparatus acting alone.

Independent Claim 9

Claim 9 is an apparatus claim that includes an apparatus employing wireless communications. The apparatus includes a receiving means for receiving a signal in a wireless manner and the battery charger comprises a transmitting means for transmitting signals to the apparatus in a wireless manner. As a requirement for pointing-out support for “means plus function” claim elements in an Appeal Brief, support is found in Figures 4 and 5, where it is seen that a person wearing headphones 15 can listen to audio in a wireless manner. Further support for the receiving means is found in the light-receiving elements 29 on the headphones in Figure 6. Moreover, electrical currents detected by the light-receiving

elements 29 are amplified and then split into FM-modulated signals which are subsequently demodulated and then made audible via speakers 62 and 66.

Support for the transmitting means is found in Figure 5 for example, where FM modulators 42 and 45 provide left and right audio signals to transistors 43 and 46, respectively, which in turn ultimately drives series circuits for infrared light-emitting elements 17. Infrared signals that carry the left and right audio signals FM modulated, are generated by the light-receiving element 17 (see, e.g., page 14, lines 5-20).

Claim 9 also includes the apparatus having an electrode with an engaged section and a battery charger comprising a contact member with an engaging section. As discussed with respect to Claim 1, if the apparatus is mounted on the battery charger so that the engaged section engages with the engaging section, the electrode is pushed against the contact members with a force greater than a weight of the apparatus. This extra force is due to an angular moment where an engagement portion serves as a fulcrum that creates an angular moment that uses the leverage of the weight of the apparatus as a moment force (see, e.g., above discussion with regard to Claim 1, and Figure 3, for example).

Independent Claim 11

Claim 11 defines a charging method that provides steps for engaging a secondary battery mounted on an apparatus with a battery charger. As discussed above with regard to Claims 1 and 9, the electrode is press-attached against the contact member with a force greater than the weight of the device due to angular moment centered about the engaging section of the apparatus due to the weight of the apparatus.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

There is one issue presented for appeal, and that is whether Claims 1-2, 4-7 and 9-12 are anticipated by Abe (U.S. Patent No. 5,095,382). The rejection of Claim 8 stands or falls with Claim 1.

VII. ARGUMENT

Applicant and the Examiner have reached an impasse regarding a technical issue.

This disagreement is highlighted in the Advisory Action of April 9, 2008. In the last section of the Advisory Action, the Examiner asserts the following:

lthough [sic] Abe does not specifically state that the electrode is press-attached against the contact member with a force greater than a wight[sic] of the device due to the angular moment centered about the engaging section of the apparatus due to the weight of the apparatus, he however impliedly discloses (column 5, lines 3-31) that if the apparatus (2) is mounted on the battery charger (3) so as to engage the engaged section (21) with the engaging section (6), the electrode ((23a) (23b)) is press-attached against the contact member ((7a), (7b)), thus meeting the limitation of “if the apparatus is mounted on the battery charger so as to engage the engaged section (21) with the engaging section (6), the electrode (7a, 7b) is press-attached against the contact member (23a, 23b) with a force greater than a weight of the device (2) (since the electronic circuits (31) and (32) are also incorporated within the filter cap (16a) on the top portion of the head band portion (8), and thus does add an extra weight to the that[sic] of the device (2)) due to angular moment taking a position of engagement of the engaged section (21) and the engaging section (21) [sic] as a fulcrum due to the weight of the apparatus (2).

Neither Applicant nor the undersigned understands the technical rationale why the Office would assert Abe as implicitly disclosing a “force greater than a weight of the device due to angular moment centered about the engaging section.” Even though the electronic circuits would have extra weight they are part of the headband, and nevertheless any added weight of the electronic circuits neither creates a fulcrum nor any other mechanism that would increase the force of the press-contact on the electrodes due to an angular moment.

Claim 1 is quite clear, that the electrode has to be press-attached against a contact member with a force greater than a weight of the device due to angular moment centered about the engaging section of the apparatus due to the weight of the apparatus. Abe merely discloses headphones that hang on a charging device (see, e.g., Figure 5). As such, Abe employs a pure gravity-based system where the center of mass of the headphones naturally

seeks to be centered on the charging device, thus resulting in a press-contact force that can be no more than the weight of the headphone unit.¹

While Applicant explained in the Request for Reconsideration filed February 21, 2008 that the Office Action appears to be asserting that Abe's use of a filter cap 16a is somehow not a part of the headphone device, and therefore would add further weight to the contact electrodes, the Advisory Action makes clear that that the Examiner is now alleging some other kind of scientific theory. Apparently the Examiner has taken the position that Abe somehow discloses that the electrodes 7a and 7b (Figure 6) are press-attached against the contact members 23a and 23b with a force greater than a weight of the device because the electronic circuits 31 and 32 are also incorporated within the filtered cap 16a. Assuming, *arguendo*, that this is the case, this configuration does not explain how Abe imparts anything other than a force that is limited by the gravitational force (or weight) acting on the headphone unit. There appears to be no sound technical basis for Abe "implicitly" disclosing a fulcrum that would also apply another force (other than gravity) due to an angular moment imparted on Abe's headphones. Moreover, in Abe the headphones would naturally find a balancing point on the charging electrodes as the headphones are hung on the charging apparatus. Therefore, it is respectfully submitted that the Examiner's position with regard to Abe's disclosure of providing a force greater than a weight of the device due to an angular moment of sections 21, appears to be technically incorrect, and in no way teaching, implicitly or expressly, what is claimed in Claim 1.

The issue before the Board is not a matter of claim construction or case law analysis, but purely engineering physics. Abe cannot reasonably be asserted as disclosing the feature of Claim 1, namely that "the electrode is press-attached against the contact member with a

¹ Of course the maximum force of on the electrodes would occur when the electrodes are located directly in line with the headphone's center of mass. If the electrodes are not in-line with the gravitational pull on the headphone's center of mass, the press-contact force on the electrodes would be less than the weight of the headphones.

force greater than a weight of the device due to an angular moment centered about the engaging section of the apparatus due to the weight of the apparatus”. Therefore, Applicant requests the Board review the Examiner’s technical analysis, and reverse the holding of anticipation of Claim 1.

Similar to Claim 1, the Examiner has made no analysis whatsoever with regard to the specific physics and geometric layout as defined by Claim 2, but rather has alleged that Abe “inherently” discloses the features of Claim 2. Moreover, Applicant submits that Abe simply does not disclose the electrode making contact with the contact member at a position between a perpendicular line passing through a center of gravity of the apparatus and the engaging section. Rather, Abe merely hangs its headphones from a charging apparatus and therefore the weight of the headphones in Abe would be directed from its center of mass directly downward. If the electrodes are not located at the center of gravity of the headphones, then Abe would exhibit a force that is less than the weight of the headphones, not more.

Claim 9 contains a similar feature as Claim 1, in that the claim requires “the electrode is pushed against the contact member with a force greater than a weight of the apparatus due to angular moment taking a position of engagement of the engaged section and the engaging section as a fulcrum due to the weight of the apparatus”. As discussed above with regard to Claim 1, this feature is absent in Abe.

Claim 11 is directed to a charging method, but also includes a similar structural limitation regarding the press-attachment of the contact members, as discussed above with regard to Claim 9. For substantially similar reasons with regard to Claim 9 it is believed that Abe does not disclose the “electrode as press-attached against the contact member with a force greater than a weight of the device due to angular moments centered about the engaging section of the apparatus due to the weight of the apparatus”, as claimed in Claim 11.

VIII. CONCLUSION

In view of the above discussion, it is respectfully submitted that Abe does not disclose all of the elements in the independent claims and therefore does not anticipate the independent claims or the dependent claims depending therefrom. The rejection of Claim 8 would stand or fall with the Board's disposition of Claim 1. Therefore, Applicants respectfully request that the outstanding rejection be vacated and the present application be placed in condition for allowance.

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Respectfully submitted,

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CLAIMS APPENDIX

Claim 1: A charging apparatus for charging a secondary battery when mounting an apparatus having a built-in secondary battery on a battery charger, the charging apparatus comprising:

the battery charger comprising an engaging section and a contact member; and

an electrode for supplying power to the secondary battery upon establishing contact between an engaged section engaging with the engaging section and the contact member, wherein

if the apparatus is mounted on the battery charger so as to engage the engaged section with the engaging section, the electrode is press-attached against the contact member with a force greater than a weight of the device due to angular moment centered about the engaging section of the apparatus due to the weight of the apparatus, and

a receptacle surface of the battery charger forms a substantial circular arc shape wherein the engaged section is engaged by the engaging section when the apparatus is turned on the receptacle surface, and the electrode stops at a position where contact is made with the contact member.

Claim 2: The charging device according to claim 1, characterized in that, if the engaging section engages with the engaged section when the apparatus is mounted on the battery charger, the electrode makes contact with the contact member at a position between a perpendicular line passing through a center of gravity of the apparatus and the engaging section.

Claim 3 (Canceled).

Claim 4: The charging device according to claim 1, characterized in that the battery charger is provided with a wireless transmission means and the apparatus is provided with wireless receiving means, wherein the receiving means of the apparatus and an output means supplied with an output of the receiving means are driven by the secondary battery when the apparatus is removed from the battery charger for use.

Claim 5: The charging device according to claim 4, characterized in that a signal is transmitted between the transmission means and the receiving means by infrared ray.

Claim 6: The charging device according to claim 5, characterized in that an infrared generator is provided at the battery charger and an infrared receiver is provided at the apparatus.

Claim 7: The charging device according to claim 1, characterized in that the apparatus is wireless headphone.

Claim 8: The charging device according to claim 7, characterized in that an output unit case of the headphone has a substantially circular or oval shape so that the outer peripheries of the case rotate along the substantially circular arc-shaped receptacle surface of the battery charger so as to be stably supported at a position where the engaged portions are engaged by the engaging portions.

Claim 9: A charging device provided with an apparatus employing wireless communication, and a battery charger serving a dual purpose of a mounting table for

mounting the apparatus when the apparatus is not in use, the charging device characterized by:

the apparatus comprising a receiving means for receiving a signal in a wireless manner and the battery charger comprising a transmitting means for transmitting signals to the apparatus in a wireless manner;

the apparatus comprising an electrode and an engaged section, and the battery charger comprising a contact member and engaging section; wherein

if the apparatus is mounted on the battery charger so that the engaged section engages with the engaging section, the electrode is pushed against the contact member with a force greater than a weight of the apparatus due to angular moment taking a position of engagement of the engaged section and the engaging section as a fulcrum due to the weight of the apparatus.

Claim 10: The charging device according to claim 9, characterized in that an electrode is provided at a lower portion of the apparatus, wherein if the apparatus is mounted on the battery charger, the electrode is press-attached against a contact member provided on a receptacle surface of the battery charger.

Claim 11: A charging method for charging a secondary battery when mounting an apparatus having a built-in secondary battery on a battery charger, characterized by:

providing an engaging section and a contact member on the battery charger side; and

providing an electrode for supplying power to the secondary battery by engaging the engaging section and the contact member by the engaged section at the apparatus side; wherein

if the apparatus is mounted on the battery charger so as to engage the engaged section with the engaging section, the electrode is press-attached against the contact member with a force greater than a weight of the device due to angular moment centered about the engaging section of the apparatus due to the weight of the apparatus, and

the secondary battery is charged by supplying power via the contact member and the electrode.

Claim 12: The charging method according to claim 11, characterized in that if the engaging section engages with the engaged section when the apparatus is mounted on the battery charger, the electrode makes contact with the contact member at a position between a perpendicular line passing through a center of gravity of the apparatus and the engaging section.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.